MEMORANDUM:

Re: Preliminary Assessment , Litton Industries, Springfield Mo.

From: Steven Kinser

To: Gale Wright

Site: LITTON
ID #: MOD007152703
Break: 1.5
Other: PA
8-20-85

This is a site of wastewater from a printed circuits operation. Initally the wastewater was disposed of by ~~land farming~~ irrigation and by discharging to a sinkhole on the Litton property. This was discontinued after ponds were constructed for storage and setteling. Wastewater and sludges were also discharged through a series of terraces into a pit. The plant was opened in 1969 and the sludges were removed from the pits drumed and disposed of in about 1975. At that time the company began disposing the wastewater in a lagoon which was later cleaned out and covered over. The sludge from the lagoon was hauled to an approved disposal site. Copper is thought to be the predominant waste at the site, however there is the possibility of TCE, Tin, nickel, rhodium, gold, ~~and other~~ xx.

This site is located in a karst area. There is potential for contamination of the shallow groundwater and through local wells contaminiation of the deep aquifer is possible. There is not much development adjacent to the site except for industrial. However within one mile of the site there is considerable residential development.

There is insufficient information to determine that there is no current risk to human health or to the environment as a result of past practicies at this site. At a minimum ground water and soil samples are needed to determine the nature and extent of the problem, if any, at this site.

Gale A Wright 7/26/85
Agree

disagree

Looks like SI should be ordered in next Qtrly Request.
comments

Note: State should do SI on this site at a later date

SUPERFUND
AUG 2 1985
SITE LOG

30289690

Shelly

POTENTIAL HAZARDOUS WASTE SITE

Preliminary Assessment
Litton Industries

Litton Industries (Advanced Circuitry Division) is located adjacent to the Springfield Regional Airport on Highway 00 (Kearney Street) 1.6 miles west of the Junction of Highway 160 and Kearney Street (Highway 744). The legal description is SW 1/4, SE 1/4, SW 1/4, Section 6, T29N, R22W.

The Litton site is owned by: Litton Industries, Inc.
360 North Cresent
Beverly Hills, CA 90210

Litton began operation at the site in about 1969, manufacturing printed circuit boards. Processes included in the operation are plating with copper pyrophosphate, tin nickel, rhodium, gold, and tin.

Litton initially disposed of wastewater by irrigation and by discharging to a sinkhole on the Litton property. This was discontinued after ponds were constructed for storage and settling. Wastewater and sludges were also discharged through a series of terraces into a pit. The soils were determined to have an ion attraction to the copper as the wastewater percolated through it. What didn't soak into the soils flowed into the pit. The entire area around the site is laddened with sinkholes and has been determined to be a recharge area for springs to the north, east and west. In about 1975 the sludges were removed from the pits, drummed up, and disposed of at an approved facility. Wastewater from the plant was then discharged to a lagoon system which also was later abandoned, cleaned out and dozed in. The sludges from the lagoon were hauled to an approved waste disposal site. The company has connected to the Springfield municipal sewerage system and installed a pretreatment system for removal of plating wastes.

Copper is thought to be the predominant waste at the site however, there may also be some solvents such as TCE. Quantities and concentrations are not known. The sludge has been removed but soils where land application was done through overland flow and irrigation may have high concentrations of copper and/or solvents.

Some copper compounds are toxic and TCE is a carcinogen. The specific copper compounds found on the Litton site are not known at this time.

Because of the karst topography of the area there is a potential of groundwater contamination. There is no surface water runoff in the site area. Contaminants would be limited to those leached from the soils on the gently rolling site.

The area surrounding the site is zoned industrial with some pasturing of beef and dairy cattle. There is very little residential

development within one mile of the site however substantial residential development continues to take place one mile and more to the southeast. Ritter Springs Park and Fantastic Caverns are approximately three miles from the site to the northeast.

There are 8-10 wells within one mile of the site that are capable of receiving migrating wastes. The nearest well is about 1/2 mile to the north. The other wells are to the north, northwest and northeast.

The Burlington aquifer is only about 30-40 feet below the surface and because of the karst topography contaminants would be expected to move rapid from the surface into it. Wells in the area would serve as channels to introduce contaminants to depths up to 300 feet. This could effect as many as 800 people who are on private or non-state approved public wells within three miles of the site.

Soil at the site consists of a thin layer of wind-blown silty clay surface soil overlying thick layers of Burlington residuum which consists of clay, gravelly clay, and chert boulders and is highly permeable.

Precipitation and evaporation in the area are about equal and the one year, 24-hour rainfall is 3.25 inches.

Conclusions and Recommendations:

There is no evidence that waste sludge or other hazardous wastes are still buried on site. Of some concern is the potential leaching of toxic compounds from the terraced area formerly used in the disposal of the plating wastes. If the soil has not trapped the ions there could be long term leaching of the waste materials into the shallow groundwater. This could be determined by soil samples taken from the terraces and/or by water samples from springs recharged by the sinkholes at the site and nearby wells.

APPENDIX A

PRELIMINARY ASSESSMENT FORM

EPA FORM 2070-12

EPA

POTENTIAL HAZARDOUS WASTE SITE
PRELIMINARY ASSESSMENT
PART 1 - SITE INFORMATION AND ASSESSMENT

I. IDENTIFICATION

01 STATE	02 SITE NUMBER
29	

II. SITE NAME AND LOCATION

01 SITE NAME (Legal, common, or descriptive name of site)	02 STREET, ROUTE NO., OR SPECIFIC LOCATION IDENTIFIER
Litton	4811 West Kearney

03 CITY	04 STATE	05 ZIP CODE	06 COUNTY	07 COUNTY CODE	08 CONG. DIST.
Springfield	MO	65803	Greene	077	7

09 COORDINATES LATITUDE	LONGITUDE
37 14 35	93 22 40

10 DIRECTIONS TO SITE (Starting from nearest public road)

Hwy 00 (Kearney Street) west of Interstate 44, near the Springfield Regional Airport.

III. RESPONSIBLE PARTIES

01 OWNER (If known)	02 STREET (Business mailing address)
Litton Industries, Inc.	360 North Cresent

03 CITY	04 STATE	05 ZIP CODE	06 TELEPHONE NUMBER
Beverly Hills	CA	90210	( )

07 OPERATOR (If known and different from owner)	08 STREET (Business mailing address)
Litton Advanced Circuity Division	4811 West Kearney

09 CITY	10 STATE	11 ZIP CODE	12 TELEPHONE NUMBER
Springfield	MO	65803	417 862-0751

13 TYPE OF OWNERSHIP (Check one)

X A. PRIVATE B. FEDERAL _____ (Agency name) C. STATE D. COUNTY E. MUNICIPAL

F. OTHER _____ (Specify) G. UNKNOWN

14 OWNER/OPERATOR NOTIFICATION ON FILE (Check all that apply)

X A. RCRA 3001 DATE RECEIVED _____ (Month, Day, Year) B. UNCONTROLLED WASTE SITE (CERCLA 103c) DATE RECEIVED _____ (Month, Day, Year) C. NONE

IV. CHARACTERIZATION OF POTENTIAL HAZARD

01 ON-SITE INSPECTION

X NO YES DATE _____ (Month, Day, Year)

BY (Check all that apply)

☐ A. EPA ☐ B. EPA CONTRACTOR ☐ C. STATE ☐ D. OTHER CONTRACTOR

☐ E. LOCAL HEALTH OFFICIAL ☐ F. OTHER _____ (Specify)

CONTRACTOR NAME(S): _____

02 SITE STATUS (Check one)

X A. ACTIVE ☐ B. INACTIVE ☐ C. UNKNOWN

03 YEARS OF OPERATION _____ (Beginning Year) _____ (Ending Year) ☐ UNKNOWN

04 DESCRIPTION OF SUBSTANCES POSSIBLY PRESENT, KNOWN, OR ALLEGED

Plating wastes and solvents (Copper, tin, rhodium, and TCE)

SUPERFUND

05 DESCRIPTION OF POTENTIAL HAZARD TO ENVIRONMENT AND/OR POPULATION

Possible leaching into groundwater.

AUG 0 1985

SITE LOG

V. PRIORITY ASSESSMENT

01 PRIORITY FOR INSPECTION (Check one. If high or medium is checked, complete Part 2 - Waste Info and Assessment and Part 3 - Description of Hazardous Conditions and Incidents)

A. HIGH (Inspection required promptly) XB. MEDIUM (Inspection required) C. LOW (Inspection time frame discretionary) D. NONE (No further action needed, complete current disposition below)

VI. INFORMATION AVAILABLE FROM

01 CONTACT	02 OF (Agency/Organization)	03 TELEPHONE NUMBER
Joe Rowe	DNR, DEQ, Hazardous Waste Management	(314) 751-3241

04 PERSON RESPONSIBLE FOR ASSESSMENT	05 AGENCY	06 ORGANIZATION	07 TELEPHONE NUMBER	08 DATE
Charles L. Kroeger	DNR	DEQ, SRO	417 883-4033	4/2/85

EPA FORM 2070-12 (7-81)

EPA

POTENTIAL HAZARDOUS WASTE SITE
PRELIMINARY ASSESSMENT
PART 2 - WASTE INFORMATION

I. IDENTIFICATION

01 STATE	02 SITE NUMBER
29	

II. WASTE STATES, QUANTITIES, AND CHARACTERISTICS

01 PHYSICAL STATES (Check all that apply)

A SOLID
B POWDER, FINES
C SLUDGE
E SLURRY
F LIQUID
G GAS
X D OTHER (Specify) Contaminated Soil

02 WASTE QUANTITY AT SITE
(Measures of waste quantities must be independent)

TONS ? _ _ _
CUBIC YARDS ? _ _ _
NO OF DRUMS None

03 WASTE CHARACTERISTICS (Check all that apply)

X A TOXIC
B CORROSIVE
C RADIOACTIVE
D PERSISTENT
E SOLUBLE
F INFECTIOUS
G FLAMMABLE
H IGNITABLE
I HIGHLY VOLATILE
J EXPLOSIVE
K REACTIVE
L INCOMPATIBLE
M NOT APPLICABLE

III. WASTE TYPE

CATEGORY	SUBSTANCE NAME	01 GROSS AMOUNT	02 UNIT OF MEASURE	03 COMMENTS
SLU	SLUDGE			
OLW	OILY WASTE			
SOL	SOLVENTS	Unknown		Possibly soils contaminated with TC
PSD	PESTICIDES			
OCC	OTHER ORGANIC CHEMICALS			
IOC	INORGANIC CHEMICALS			
ACD	ACIDS			
BAS	BASES			
MES	HEAVY METALS	Unknown		Possibly contaminated soils.

IV. HAZARDOUS SUBSTANCES (See appendix for most frequently cited CAS numbers)

01 CATEGORY	02 SUBSTANCE NAME	03 CAS NUMBER	04 STORAGE/DISPOSAL METHOD	05 CONCENTRATION	06 MEASURE OF CONCENTRATION
MES	Copper pyrophosphate		land application	unknown	
MES	Zinc		land application	unknown	
MES	Nickel		land application	unknown	
SOL	Trycloroethylene	79-01-6	land application	unknown	

V. FEEDSTOCKS (See appendix for most frequently cited CAS numbers)

CATEGORY	01 FEEDSTOCK NAME	02 CAS NUMBER	CATEGORY	FEEDSTOCK NAME	02 CAS NUMBER
FDS	Nickel	7440-02-0	FDS		
FDS			FDS		
FDS			FDS		
FDS			FDS		

VI. SOURCES OF INFORMATION (Cite specific references, e.g., state files, sample analysis, reports)

DNR files.

EPA FORM 2070-12 (7-81)

EPA

POTENTIAL HAZARDOUS WASTE SITE
PRELIMINARY ASSESSMENT
PART 3 - DESCRIPTION OF HAZARDOUS CONDITIONS AND INCIDENTS

I. IDENTIFICATION
01 STATE: 29 | 02 SITE NUMBER:

II. HAZARDOUS CONDITIONS AND INCIDENTS

01 A GROUNDWATER CONTAMINATION | 02 OBSERVED (DATE: ____ / ____) | X POTENTIAL | ALLEGED
03 POPULATION POTENTIALLY AFFECTED: 30 | 04 NARRATIVE DESCRIPTION

Karst topography and shallow groundwater could allow migration of contaminants in Burlington aquifer.

01 B SURFACE WATER CONTAMINATION | 02 OBSERVED (DATE: ____ / ____) | POTENTIAL | ALLEGED
03 POPULATION POTENTIALLY AFFECTED: ____ | 04 NARRATIVE DESCRIPTION

01 C CONTAMINATION OF AIR | 02 OBSERVED (DATE: ____ / ____) | POTENTIAL | ALLEGED
03 POPULATION POTENTIALLY AFFECTED: ____ | 04 NARRATIVE DESCRIPTION

01 D FIRE EXPLOSIVE CONDITIONS | 02 OBSERVED (DATE: ____ / ____) | POTENTIAL | ALLEGED
03 POPULATION POTENTIALLY AFFECTED: ____ | 04 NARRATIVE DESCRIPTION

01 E DIRECT CONTACT | 02 OBSERVED (DATE: ____ / ____) | POTENTIAL | ALLEGED
03 POPULATION POTENTIALLY AFFECTED: ____ | 04 NARRATIVE DESCRIPTION

01 XE CONTAMINATION OF SOIL | 02 OBSERVED (DATE: ____ / ____) | X POTENTIAL | ALLEGED
03 AREA POTENTIALLY AFFECTED: 2-3 acres | 04 NARRATIVE DESCRIPTION

Previous disposal method utilizing land application through series of terraces could have contaminated area soils.

01 XG DRINKING WATER CONTAMINATION | 02 OBSERVED (DATE: ____ / ____) | X POTENTIAL | ALLEGED
03 POPULATION POTENTIALLY AFFECTED: 30 | 04 NARRATIVE DESCRIPTION

Groundwater contamination could affect nearby shallow or improperly cased wells.

01 H WORKER EXPOSURE INJURY | 02 OBSERVED (DATE: ____ / ____) | POTENTIAL | ALLEGED
03 WORKERS POTENTIALLY AFFECTED: ____ | 04 NARRATIVE DESCRIPTION

01 I POPULATION EXPOSURE INJURY | 02 OBSERVED (DATE: ____ / ____) | POTENTIAL | ALLEGED
03 POPULATION POTENTIALLY AFFECTED: ____ | 04 NARRATIVE DESCRIPTION

EPA FORM 2070-12 (7-81)

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POTENTIAL HAZARDOUS WASTE SITE
PRELIMINARY ASSESSMENT
PART 3 - DESCRIPTION OF HAZARDOUS CONDITIONS AND INCIDENTS

I. IDENTIFICATION
01 STATE 29 | 02 SITE NUMBER

II. HAZARDOUS CONDITIONS AND INCIDENTS (Continued)

01 ☐ J DAMAGE TO FLORA
04 NARRATIVE DESCRIPTION
02 ☐ OBSERVED (DATE ____ ____ ____) ☐ POTENTIAL ☐ ALLEGED

01 ☒ K DAMAGE TO FAUNA
04 NARRATIVE DESCRIPTION (Include names of species)
02 ☐ OBSERVED (DATE ____) ☒ POTENTIAL ☐ ALLEGED

Contamination of groundwater could damage animals in springs and caves of the area such as cavefishes, crawfish and minnows.

01 ☐ L CONTAMINATION OF FOOD CHAIN
04 NARRATIVE DESCRIPTION
02 ☐ OBSERVED (DATE ____ ____) ☐ POTENTIAL ☐ ALLEGED

01 ☐ M UNSTABLE CONTAINMENT OF WASTES
(Spills, runoff, standing liquids, leaking containers)
03 POPULATION POTENTIALLY AFFECTED ____
02 ☐ OBSERVED (DATE ____ ____ ____) ☐ POTENTIAL ☐ ALLEGED
04 NARRATIVE DESCRIPTION

01 ☒ N DAMAGE TO OFFSITE PROPERTY
04 NARRATIVE DESCRIPTION
02 ☐ OBSERVED (DATE ____ ____ ____) ☐ POTENTIAL ☐ ALLEGED

Contamination of groundwater and subsequently area springs would cause damage to off site property.

01 ☐ O CONTAMINATION OF SEWERS, STORM DRAINS, WWTPs
04 NARRATIVE DESCRIPTION
02 ☐ OBSERVED (DATE ____ ____) ☐ POTENTIAL ☐ ALLEGED

01 ☐ P ILLEGAL, UNAUTHORIZED DUMPING
04 NARRATIVE DESCRIPTION
02 ☐ OBSERVED (DATE ____ ____) ☐ POTENTIAL ☐ ALLEGED

05 DESCRIPTION OF ANY OTHER KNOWN, POTENTIAL, OR ALLEGED HAZARDS

III TOTAL POPULATION POTENTIALLY AFFECTED: 30

IV COMMENTS

Contamination of shallow groundwater with metals and/or solvents could spread to shallow cased wells and be introduced into deeper waters with the wells serving as conduits.

V SOURCES OF INFORMATION (Cite specific references, e.g., state files, sample analysis, reports)

DNR files and DGLS.

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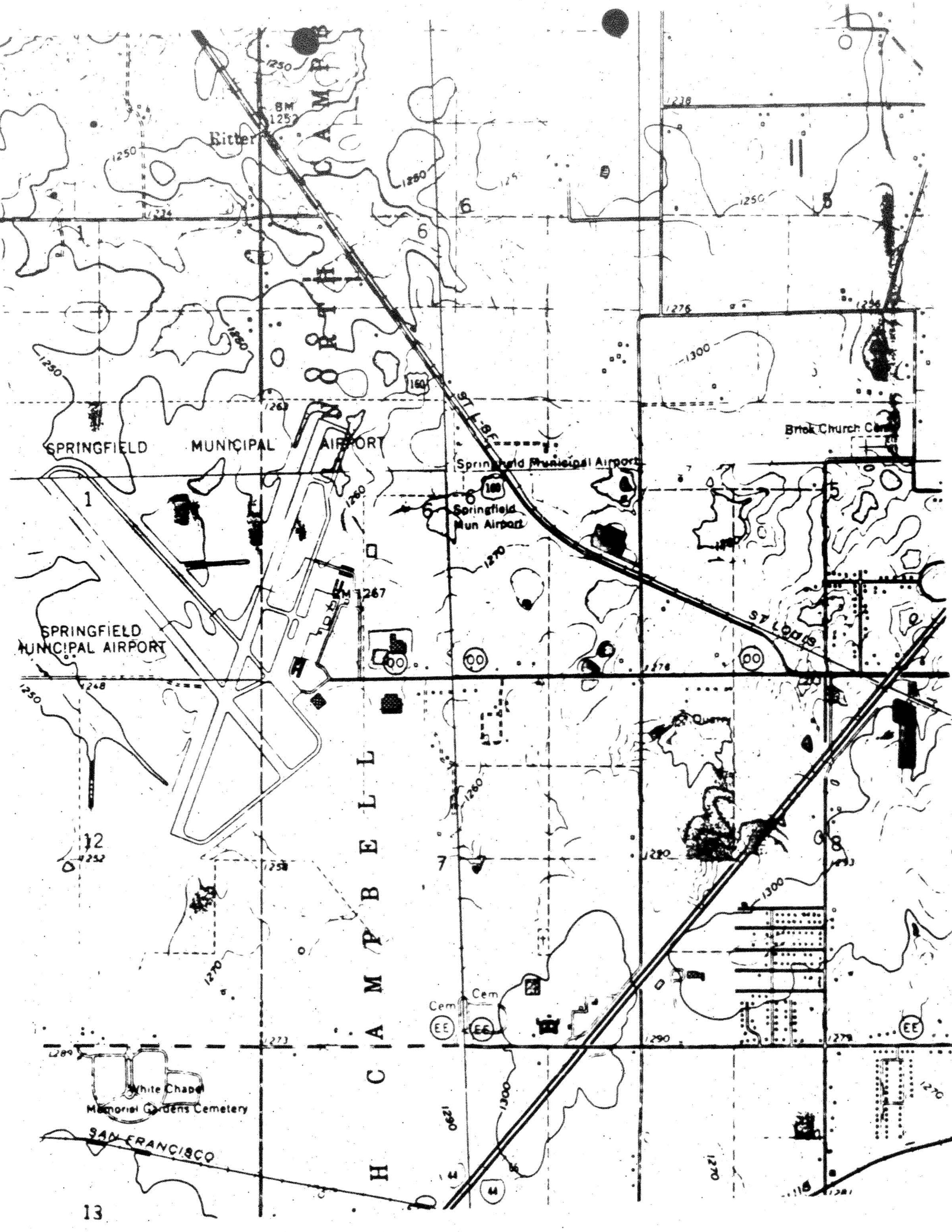

SPRINGFIELD MUNICIPAL AIRPORT
Springfield Municipal Airport
Springfield Mun Airport
SPRINGFIELD MUNICIPAL AIRPORT
Ritter
BM 1252
BM 1267
Brick Church Cem
Quarry
Cem
Cem
White Chapel Memorial Gardens Cemetery
SAN FRANCISCO
ST LOUIS
ST L-SF
NORTH CAMPBELL
CAMPBELL
160
66
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44
1
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8
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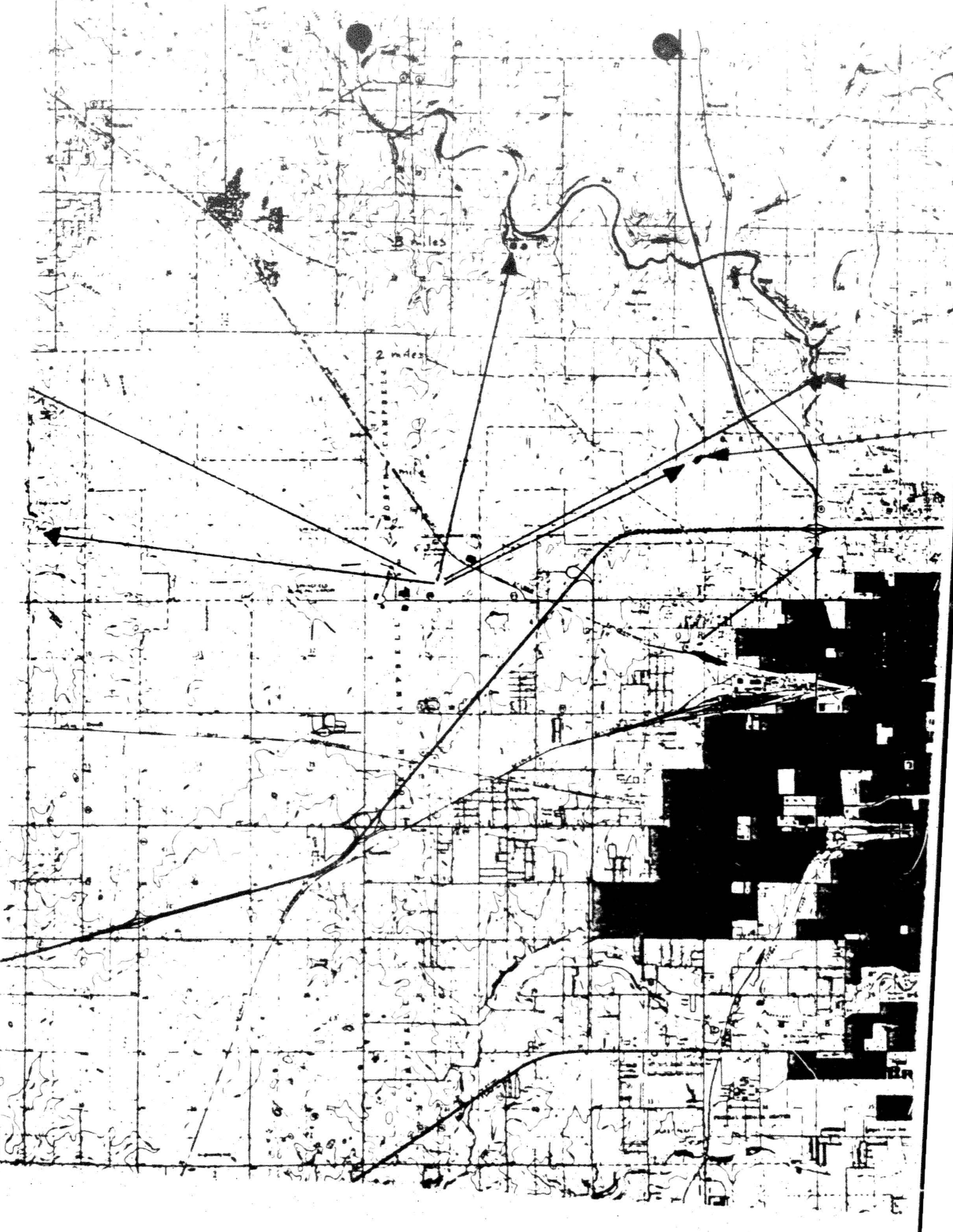
3 miles
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